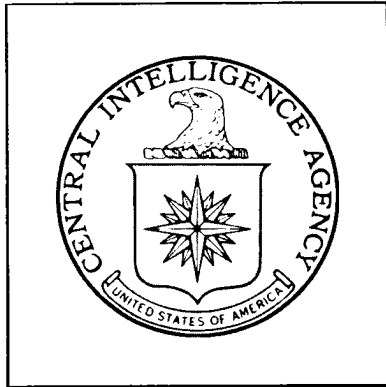


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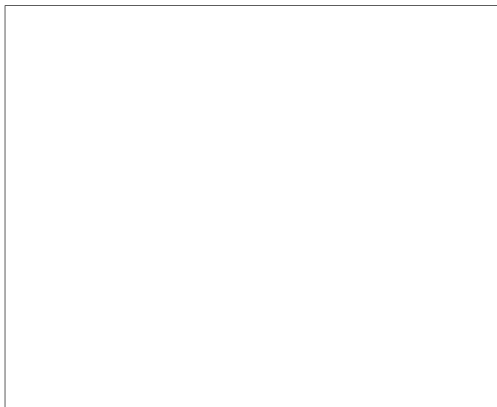
**DIRECTORATE OF
INTELLIGENCE**

**Industrial Facilities
(Non-Military)**

Basic Imagery Interpretation Report

Chin Chou Synthetic Fuels Plant

Chin Chou, China



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DATE JUNE 1969

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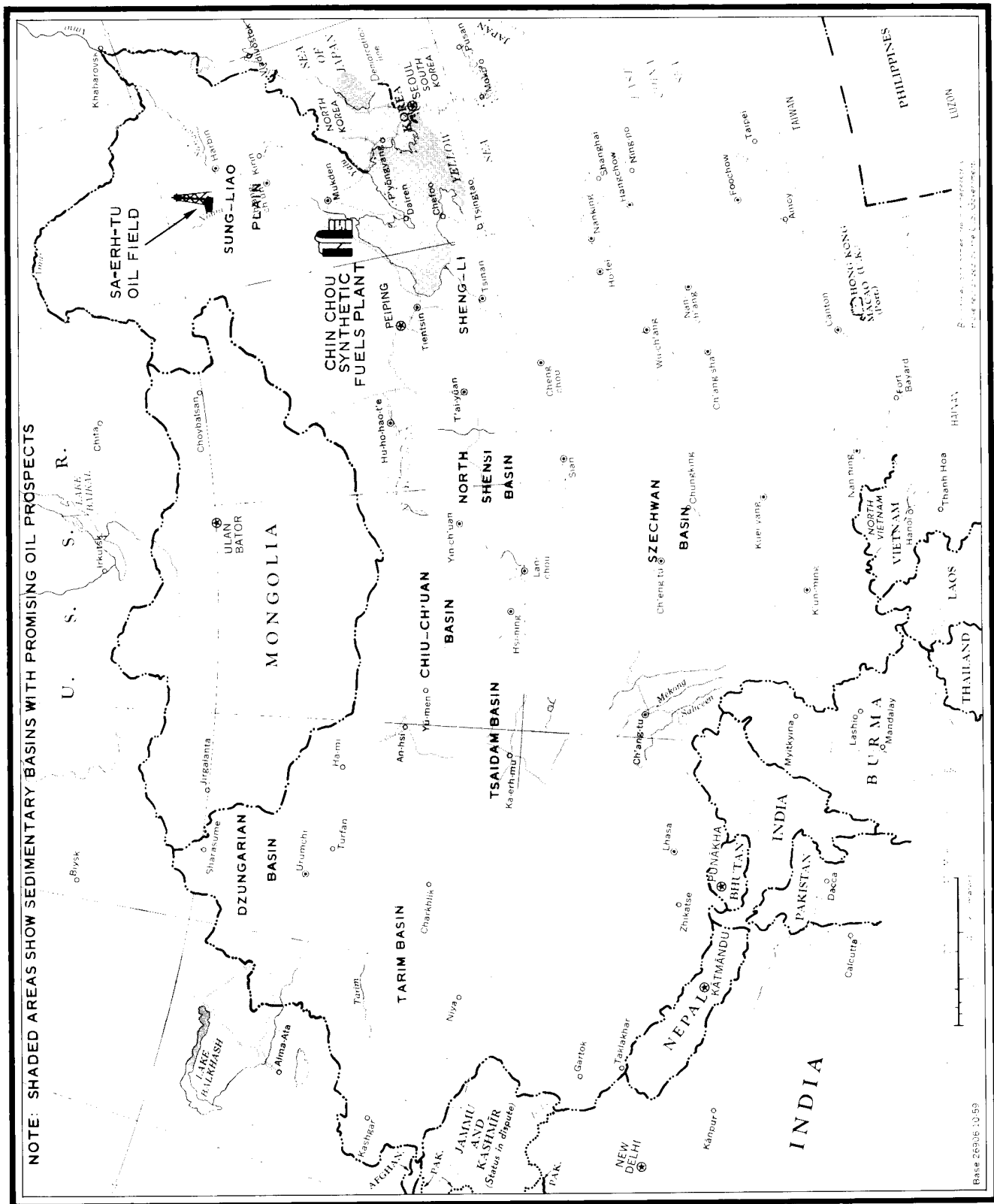


FIGURE 1. LOCATION MAP.

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INTRODUCTION

The Chin Chou Synthetic Fuels Plant is located in Liaoning Province on the northwest edge of the Chin Chou complex. The Chin Chou Thermal Power Plant (Synthetic Fuels Plant)  is collocated with and furnishes electric power and steam to the synthetic fuels plant.

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The plant utilizes the German Fischer-Tropsh process to produce synthetic oil. The basic processing units are of German design and were constructed between 1937 and 1943.1/ At that time, China's natural crude oil resources had been exploited only to a very limited degree and the plant was constructed to refine synthetic oil produced from coal. It is normally uneconomical to produce oil by this method when natural crude oil is available. A 1968 collateral report 2/ indicates that crude oil produced in the Sa-erh-tu (Ta Ching) oil field in Heilungkiang Province (Manchuria) is now being refined here.

BASIC DESCRIPTION

Physical Features

The synthetic fuels plant occupies an irregular-shaped fenced area which measures approximately 4,600 by 3,600 feet and contains approximately 380 acres.

The plant is served by a good all-weather road system and by a rail spur.

Operational Functions

The major products of this plant are synthetic oil and refined petroleum products which probably include gasoline, diesel oil, kerosene, residuum, and paraffin. The residuum is probably burned as fuel in the refining furnaces and at the power plant. Secondary products probably include tar, carbon dioxide, and oxygen.

The specific production areas and process facilities are depicted and annotated on the line drawing (Figure 3). A precise functional identification of the refining equipment was not possible due to the lack of large-scale stereo photography.

In the Fischer-Tropsh Process hydrogen and carbon monoxide are combined under pressure and temperature to produce oil. Hydrogen is produced at this plant in the probable coal gas ovens and in the probable water gas retorts (Area A), and carbon monoxide is produced primarily in the probable water gas retorts. They are synthesized in the contact oven building (Item 14, Area B) under controlled pressure and temperature to form a

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mixture of hydrocarbon vapors, which when condensed form synthetic oil. The oil is piped to the refinery areas (Areas C and D) where it is processed in standard petroleum refining equipment.

Status and Activity

The gas production area, oil synthesis area, and parts of the old refining area (Area C) were built between 1937 and 1943.1/

August 1962 -- In August 1962, on the first photographic coverage used in this study, the basic components of the plant were present and in operation. All the necessary components for the production of synthetic oil and refined petroleum products were present. The plant was operating as evidenced by smoke and steam in the gas production area, gasholders in the raised position, and rail cars observed throughout the plant.

January 1965 -- Minor additions had been made in the oil synthesis area and 37 additional tanks had been constructed in the products storage areas. The plant was operating as evidenced by snow melt throughout the plant area.

March 1967 -- A new refining area (Area D), including a possible primary distillation unit (Item 28) and an unidentified processing unit (Item 29), had been built. Construction had begun on a secondary processing unit (Item 27) in this area. All three units are interconnected and are in turn connected by pipeline to the oil synthesis building. The plant was operating as evidenced by smoke and steam from the gas production and power plant areas and rail cars observed throughout the plant.

October 1967 -- One of the cooling towers serving the power plant had been dismantled. Rail cars in the transshipment area and the raised position of two gasholders in the gas production area indicated that the plant was in operation. No smoke, steam, or vapor was observed in the plant area.

September 1968 -- Construction was continuing on the secondary processing unit (Item 27). The possible primary distillation unit (Item 23, Area C) was being dismantled. The cooling towers serving the gas production plant and the second cooling tower at the power plant had been dismantled. The plant appeared to be active because rail cars were seen at the gas production plant and the products storage and shipping area (Item 21, Area C). However, none of the gasholders appeared to be in a raised position and no smoke, steam, or vapor was observed coming from either the gas production plant or the power plant.

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REFERENCES

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Map

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Requirement

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